The Pink Pulseless Hand: A Review of the Literature Regarding Management of Vascular Complications of Supracondylar Humeral Fractures in Children

Griffin K.J., Walsh S.R., Markar S., Tang T.Y., Boyle J.R., Hayes P.D. Eur J Vasc Endovasc Surg 2008;36:697-702.

Supracondylar fractures of the humerus are the commonest upper limb fractures in children, accounting for up to 70% of all paediatric elbow fractures [Wilson MJ, Hunter JB. Supracondylar fractures of the humerus in children—wire removal in the outpatient setting. Injury Extra 2006 Aug; 37(8):313–315] and are often complicated by neurovascular injury. Much confusion surrounds the management of the child with a "pink pulseless hand" post-fracture reduction and several treatment options have been proposed including observation, immediate exploration and angiography. The literature contains a number of case series with variable follow-up. Both angiography and colour duplex ultrasound provide little benefit in the management of these patients. A child with a pink pulseless hand post-fracture reduction can be managed expectantly unless additional signs of vascular compromise develop, in which case exploration should be undertaken.

Randomized Clinical Trial Comparing Endovenous Laser Ablation of the Great Saphenous Vein with and without Ligation of the Saphenofemoral Junction: 2-year Results

Disselhoff B.C.V.M., der Kinderen D.J., Kelder J.C., Moll F.L. Eur J Vasc Endovasc Surg 2008;36:713-8.

Objective: To evaluate whether ligation of the sapheno-femoral junction (SFJ) improves the 2-year results of endovenous laser ablation (EVA).

Methods: Forty-three symptomatic patients with bilateral varicose veins were studied in which one limb was randomly assigned to receive EVA without SFJ ligation, and the other limb received EVA with SFJ ligation. Recurrence of varicose veins and abolition of great saphenous vein (GSV) reflux on duplex ultrasound imaging, and venous clinical severity score (VCSS) were investigated at 6, 12, and 24 months after treatment.

Results: Two-year life table analysis showed freedom from groin varicose vein recurrence in 83% of 43 limbs (95% CI; 67–95%) in the EVA without ligation group and in 87% of 43 limbs (95%; CI 73–97) of limbs in the EVA with ligation group ($P = 0.47$). Thirty-eight (88%) treated GSV segments were ablated completely in the EVA without ligation group and 42 (98%) in the EVA with ligation group (N.S.). Groin recurrence was due to an incompetent SFJ/GSV (9%) and to incompetent tributaries (7%) in the EVA without ligation group and due to neovascularisation (12%) in the EVA with ligation group. The VCSS improved significantly and was comparable in both groups.

Conclusion: The addition of SFJ ligation to EVA makes no difference to the short-term outcome of varicose veins treatment. Establishing whether SFJ ligation results in a poorer long-term outcome because of neovascularisation needs to be studied in larger populations with longer follow-up. Registration number: ISRCTN60300873 (http://www.controlled-trials.com).

Restoration of Patency in Iliofemoral Deep Vein Thrombosis with Catheter-Directed Thrombolysis Does Not Always Prevent Post-Thrombotic Damage

Park Yang Jin, Choi Joon Young, Min Seung-Kee, Lee Taeseung, Jung In Mok, Chung Jung Kee, Chung Jin Wook, Park Jae Hyung, Kim Sang Joon, Ha Jongwon. Eur J Vasc Endovasc Surg 2008;36:725-30.

Objectives: To evaluate the long-term results of catheter-directed thrombolysis (CDT) and the feasibility of stent placement for lower extremity deep vein thrombosis (DVT).

Design & methods: Retrospective study of 34 patients (10 men and 24 women, mean age 55, S.D. 13 years) with lower extremity DVT underwent CDT at Seoul National University Hospital from January 1999 to October 2003. Patient characteristics, risk factors of DVT, extent of thrombosis, and short-term and long-term results of CDT and/or stent placement were analysed.

Results: Mean follow-up times were 47 S.D. 16 months. The primary technical success rate was 97% (complete lysis 68%, partial 29%). During the follow-up periods 11 (32%) patients showed re-thrombosis. Sixteen (47%) of 34 patients showed chronic change of vessels during the follow-up periods. By Cox Proportional Hazard analysis, extent of thrombolysis was a statistically significant factor affecting the freedom of re-thrombosis and chronic change ($P = 0.008$ and $P = 0.001$).. Nine (44%) of 21 deployed stents were obstructed, and the overall stent patency at 3 years was 56.7%. The only factor affecting the stent patency was stent length more than 6 cm ($P = 0.002$, HR 13, 95% CI 2.7–59).

Conclusion: Long-term results of CDT are not satisfactory because of the high recurrence rate of DVT and it cannot prevent chronic post-thrombotic damage to the affected vessels despite long-term anticoagulation therapy. Careful long-term surveillance of the venous function is highly recommended after CDT.